



Alcatel-Lucent  
Networks

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## Alcatel-Lucent Lauds the Commission's Tentative **Conclusions** on the Public Safety 700 MHz Band [FCC 07-72]

### **Alcatel-Lucent Position: First Responders Must be Afforded the Significant Benefits of Commercial Broadband Technologies**

- “...providing broadband **spectrum** for **advanced** public **safety** communications would **best serve our goal** of **enabling first responders** to **protect safety** of life, health and **property**.” [¶253, FCC 07-72]
- “...only through **use** of broadband networks could public **safety** leverage **advanced** commercial **technologies** and **infrastructure** to reduce **costs** and speed deployment, and **enable** the potential for priority **access** to commercial **networks** during emergencies.” [¶253, FCC 07-72]

### **Alcatel-Lucent Position: Broadband Only. Mixed Broadband + Wideband “Flexible” Plans are Inadvisable**

- “... **such** flexibility could **hinder** efforts to **deploy** a nationwide, interoperable broadband network by perpetuating a balkanization of public **safety** spectrum **licenses, networks, and** technology deployment.” [¶253, FCC 07-72]
- “We ... reallocate **spectrum** previously designated for wideband **use** for broadband **use** only, and prohibit wideband **operations** on a going forward **basis**” [¶253, FCC 07-72]

## Alcatel-Lucent Lauds the **Commission's Tentative Conclusions** on the Public Safety 700 MHz Band [FCC 07-72]

### **Alcatel-Lucent Position: Deployment of Broadband Network Must be Based on a Nationwide Standard Leveraging Commercial Broadband Technologies**

- “...we **believe** that only broadband **applications** consistent with a nationwide interoperability **standard should be** deployed in the current wideband allocation of the 700 MHz **band.**” [¶253, FCC 07-72]

### **Alcatel-Lucent Position: Narrowband Spectrum Should Be Consolidated to Upper Portion of the Public Safety 700 MHz Allocation**

- “Further, should we adopt this **broadband approach**, we **tentatively** conclude that **we** should consolidate the existing narrowband allocations to the **upper** half of the 700 MHz Public Safety **Band.**” [¶250, FCC 07-72]

# Alcatel-Lucent Further Recommendations

## Quick Decision Required on Public Safety 700 MHz Band Plan

- Minimum channel **size** of 1.25 MHz with **aggregation** up to 5 MHz
- Internal guardband **size based on broadband** and narrowband coordination
- **Access** method limited to **Frequency-Division-Duplex (FDD)**
- Broadband emission limits on **par** with commercial **broadband**

## Quick Decision Required on the Public Safety Operator Model

## Nationwide Public Safety Broadband Standard

- Technology Selection in **Advance** of Spectrum **Clearance Date**
- Open and Transparent Technology Selection **Process**

# Appendix

## Broadband vs. Wideband

Today's Broadband Technologies are >10 Times More Spectrally Efficient than Wideband

At Like Data Rates and Coverage Criteria, Today's Broadband Technologies Offer Ranges Comparable to Wideband (TIA-902)

- Broadband technologies are the right answer for urban, suburban and rural environments

Broadband Technologies offer Cost Advantages Absent in Wideband Technologies

- Scale economies through re-banding of existing commercial broadband technologies
- Robust, competitive ecosystem largely absent from today's public safety market



# Pitfalls of Mixed Broadband + Wideband Band Plans

Spectrum Managed locally (flexibility) with national implications:

- Broadband + Wideband Hampers Interoperability
  - Multimode devices required, network evolution hampered
- Broadband + Wideband Fragments Greenfield Spectrum
  - Preserving contiguous blocks of broadband spectrum today essential for use of broadband technologies tomorrow
- Broadband + Wideband Wastes Spectrum
  - Broadband technologies today are an order of magnitude more spectrally efficient than wideband. This gap will continue to widen.

“...any application that will run on a wideband network can also run, faster and supporting more simultaneous users, on a broadband network (while the reverse is not necessarily true).”

8<sup>th</sup> NPRM Comments of the  
Spectrum Coalition for Public Safety (Docket 96-86)

# Benefits of a Broadband-only Plan

Makes Best Use of Limited Public Safety Spectrum

Encourages Deployment of Cooperative Regional Networks

- **Increased** Spectral efficiency through **use** of **spectrally efficient** broadband **technologies**, pooling of **spectrum resources**
- **Cross-Agency**, Cross-Jurisdiction Interoperability **by design**
  - E.g., National Capital **Region's Regional Wireless Broadband** Network

**Aligns** Public Safety Broadband with **Commercial Market Forces**

- Scale **Economies**, R&D investment

**Easier Frequency Planning**

- **Same** channels used in adjacent **sectors**

**Supports All Envisaged Public Safety Applications**